

WHAT IS CLAIMED IS:

- 1 1. A steering apparatus for controlling left and right
2 drive wheels of a vehicle, comprising:
3 a driving force control section to control left and right
4 driving forces of the left and right drive wheels individually
5 in accordance with a running condition of the vehicle;
6 a power assistance device to add a steering assistance
7 force to a driver's steering input force input to a steering
8 input device;
9 a steering mechanism to link the left and right drive
10 wheels with the steering input device so that the left and
11 right drive wheels are turned in accordance with the
12 driver's steering input force and the steering assistance
13 force added thereto;
14 a steering reaction force calculating section to
15 calculate a steering reaction force acting on the steering
16 input device in accordance with a difference between the
17 left and right driving forces; and
18 a steering force correcting section to correct the
19 steering assistance force so as to compensate the steering
20 reaction force.
- 1 2. The steering apparatus as claimed in Claim 1, wherein
2 the steering force correcting section decreases the steering
3 assistance force when the driving force control section
4 increases the driving force of an outer drive wheel of the
5 drive wheels outside of a turning radius of the vehicle.
- 1 3. The steering apparatus as claimed in Claim 1, wherein
2 the steering force correcting section increases the steering

3 assistance force when the driving force control section
4 decreases the driving force of an outer drive wheel of the
5 drive wheels outside of a turning radius of the vehicle.

1 4. The steering apparatus as claimed in Claim 1, wherein
2 the steering force correcting section increases the steering
3 assistance force when the driving force control section
4 increases the driving force of an inner drive wheel of the
5 drive wheels inside of a turning radius of the vehicle.

1 5. The steering apparatus as claimed in Claim 1, wherein
2 the steering force correcting section decreases the steering
3 assistance force when the driving force control section
4 decreases the driving force of an inner drive wheel of the
5 drive wheels inside of a turning radius of the vehicle.

1 6. The steering apparatus as claimed in Claim 1, wherein
2 the steering force correcting section corrects a magnitude
3 of the steering assistance force so as to compensate the
4 steering reaction force when the driving force control
5 section corrects a magnitude of the driving force of one of
6 the left and right drive wheels when the vehicle is running
7 substantially straight.

1 7. The steering apparatus as claimed in Claim 1, wherein
2 the steering force correcting section corrects a magnitude
3 of the steering assistance force so as to compensate the
4 steering reaction force when the driving force control
5 section corrects a magnitude of the driving force of at least

6 one of the left and right drive wheels in accordance with a
7 running environment of the vehicle.

1 8. A steering process for controlling left and right
2 steerable drive wheels of a vehicle, comprising:

3 examining a difference between left and right driving
4 forces individually controlled for the left and right drive
5 wheels turned in accordance with a driver's steering input
6 force input to a steering input device and a steering
7 assistance force added to the driver's steering input force;
8 and

9 varying the steering assistance force so as to
10 compensate a steering reaction force acting on the steering
11 input device in accordance with the difference between the
12 left and right driving forces.

1 9. A steering apparatus for controlling left and right
2 steerable drive wheels of a vehicle, comprising:

3 means for controlling left and right driving forces of
4 the left and right drive wheels individually in accordance
5 with a running condition of the vehicle;

6 means for calculating a steering reaction force acting
7 on the steering input device in accordance with a left and
8 right driving force difference between the left and right
9 driving forces; and

10 means for varying a steering assistance force so as to
11 compensate the steering reaction force.